A Text Book of Physics. Part IV: Sound. By J. DUNCAN, Wh.Ex., M.I.Mech.E., and S. G. STARLING, B.Sc., A.R.C.Sc., F.Inst.P. Second edition. [Pp. xii + 635–740, Figs. 627–729.] (London: Macmillan & Co., Ltd., 1950. 5*s.* net.)

THE revised edition of the sound section of the *Text Book of Physics* by J. Duncan and S. G. Starling differs very little from the earlier editions. It has always been attractively produced and the appearance of the latest edition, though slightly increased in size (demy 8vo), is much like its predecessors.

Apart from one or two minor changes in the text, the only additions are sections on the decibel and phon, and on ultrasonic waves. It is to be regretted that space could not be found for mention of (*a*) a modern method for the determination of the velocity of sound in free air and (*b*) the acoustics of buildings. Two other omissions of lesser importance were noted, *viz.* the sonometer method of determining the frequency of the A.C. mains and the use of an audio-frequency oscillator to energise the dust tube. In some cases a few extra examples have been added at the ends of the chapters.

Two corrections seem to be necessary. Fig. 663 appears to have been badly reproduced, and the frequency of a note should be measured in *cycles per second.*

W. A.

Electromagnetic Theory. By OLIVER HEAVISIDE. [Pp. xxx + 386, with frontispiece and numerous figures.] (New York: Dover Publications, Inc.; London: Interscience Publishers, Ltd, 1950. 60*s.* net.)

THE three volumes of Heaviside's *Electromagnetic Theory* appear, in this new publication, in one large volume, with a portrait of the author, a short biography and a critical and historical introduction by Ernst Weber of the Brooklyn Polytechnic Institute.

Doubtless this re-issue of Heaviside's work is very desirable, more especially because he had a very clear insight into the essentials of Maxwellian electrodynamics and made valuable original contributions to it. He greatly simplified its description and was probably the first to deal satisfactorily with propagation in cables. His distortionless circuit was a most valuable contribution to the practical problem of long-distance telephony.

It was Heaviside who first surmised the existence of what is now called the ionosphere, and some of his rather unorthodox mathematical methods have turned out to be both valuable and suggestive.

Looking back, as the present reviewer can, to the time when he was still active and prominent, one feels—notwithstanding the greatness of much of his work—that he has diminished a little in stature. One cannot help noticing that he was blind to much of the physical theory of his day that was highly significant.

In his introduction Dr. Weber says that Maxwell introduced the concept of the "ether." Surely he must mean that Maxwell retained the notion of the ether which had already a fundamental place in the theories of Young, Fresnel and their successors. Heaviside, it may be remarked, still regarded it (to the end of his life, I believe) as the elastic solid of pre-Maxwellian days and was seriously preoccupied with problems arising out of its compressibility (p. 376).

WM. WILSON.